

CRF Errors Edited by the STIC Systems Branch

Serial Number: 10/528,872

CRF Edit Date: 4/1/05
Edited by: AZ

___ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

___ Corrected the SEQ ID NO. Sequence numbers edited were:

___ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

___ Deleted: ___ invalid beginning/end-of-file text ; ___ page numbers

___ Inserted mandatory headings/numeric identifiers, specifically:

___ Moved responses to same line as heading/numeric identifier, specifically:

J
___ Other:
corrected <1407, <1417 numeric identifiers (changed to
<1507, <1517); sequence 1- inserted amino acid number "10"
in coding portion



PCT

RAW SEQUENCE LISTING

DATE: 04/01/2005

PATENT APPLICATION: US/10/528,872

TIME: 10:57:13

Input Set : A:\0185010SeqList.txt

Output Set: N:\CRF4\04012005\J528872.raw

3 <110> APPLICANT: DSM IP ASSETS B.V.
5 <120> TITLE OF INVENTION: SQS gene
7 <130> FILE REFERENCE: NDR5218
C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/528,872
C--> 10 <141> CURRENT FILING DATE: 2005-03-23
12 <150> PRIOR APPLICATION NUMBER: EP 02021619.8
13 <151> PRIOR FILING DATE: 2002-09-27
15 <160> NUMBER OF SEQ ID NOS: 8
17 <170> SOFTWARE: PatentIn version 3.2
19 <210> SEQ ID NO: 1
20 <211> LENGTH: 4807
21 <212> TYPE: DNA
22 <213> ORGANISM: Phaffia rhodozyma
25 <220> FEATURE:
26 <221> NAME/KEY: 5'UTR
27 <222> LOCATION: (1469)..(1470)
29 <220> FEATURE:
30 <221> NAME/KEY: exon
31 <222> LOCATION: (1550)..(1577)
33 <220> FEATURE:
34 <221> NAME/KEY: Intron
35 <222> LOCATION: (1578)..(1752)
37 <220> FEATURE:
38 <221> NAME/KEY: exon
39 <222> LOCATION: (1753)..(1766)
41 <220> FEATURE:
42 <221> NAME/KEY: Intron
43 <222> LOCATION: (1767)..(1882)
45 <220> FEATURE:
46 <221> NAME/KEY: exon
47 <222> LOCATION: (1883)..(2071)
49 <220> FEATURE:
50 <221> NAME/KEY: Intron
51 <222> LOCATION: (2072)..(2182)
53 <220> FEATURE:
54 <221> NAME/KEY: exon
55 <222> LOCATION: (2183)..(2397)
57 <220> FEATURE:
58 <221> NAME/KEY: Intron
59 <222> LOCATION: (2398)..(2474)
61 <220> FEATURE:
62 <221> NAME/KEY: exon
63 <222> LOCATION: (2475)..(3087)

Does Not Comply
Corrected Diskette Needed

P.3

RAW SEQUENCE LISTING

DATE: 04/01/2005

PATENT APPLICATION: US/10/528,872

TIME: 10:57:13

Input Set : A:\0185010SeqList.txt

Output Set: N:\CRF4\04012005\J528872.raw

```

65 <220> FEATURE:
66 <221> NAME/KEY: Intron
67 <222> LOCATION: (3088)..(3230)
69 <220> FEATURE:
70 <221> NAME/KEY: exon
71 <222> LOCATION: (3231)..(3356)
73 <220> FEATURE:
74 <221> NAME/KEY: Intron
75 <222> LOCATION: (3357)..(3453)
77 <220> FEATURE:
78 <221> NAME/KEY: exon
79 <222> LOCATION: (3454)..(3475)
81 <220> FEATURE:
82 <221> NAME/KEY: Intron
83 <222> LOCATION: (3476)..(3564)
85 <220> FEATURE:
86 <221> NAME/KEY: exon
87 <222> LOCATION: (3565)..(3881)
89 <220> FEATURE:
90 <221> NAME/KEY: Intron
91 <222> LOCATION: (3882)..(3958)
93 <220> FEATURE:
94 <221> NAME/KEY: exon
95 <222> LOCATION: (3959)..(3970)
97 <220> FEATURE:
98 <221> NAME/KEY: polyA_site
99 <222> LOCATION: (4106)..(4107)
101 <400> SEQUENCE: 1
102 gttcctgttc agtcaaagag tgggaaaaac atgaaagtaa aaagatgtaa tgaaagaagg      60
104 ggtcagaaca tcggagatac aatggcccat agaggaagga aagctactta ccagaaacca      120
106 gtgaggtttg cctaggaagt aatcccttcg tttctcaaa atacttttt tgaaagcatc      180
108 gatgaacgac atgtcgaacc catctccatc ctcgaaatca agtttactcg atttagacct      240
110 ttccagcttt tctgctctct ccagtttcgc agctttctct tcgggaagaa gctctccgcc      300
112 agtcgatggt ctgtcgacag gagaccagta gaaggcggaa ccgacaattt tggatggatc      360
114 ggaggacagg gtggctttaa caaatcggta gtacggagga tcgaacggcg cttctctcgt      420
116 tcgaaggttg actcctcttg ctatgtgtat gagagcatat ccgttgatgt ctcagttaaa      480
118 atttcctttt ctttctaccc ggagagtaag acacacaaag aatcacgaag aatatgatga      540
120 ctgaccgatc cgaatatcta gcgcaggttg cttctctact ggttccattc ttcgaacgat      600
122 aggttcatgt ttgaaagcat tgatcctagt tgctctatc tgaggccagt ctgccaatgt      660
124 agcaggctca atgatcactt ggggtttgtg catcttgatg ttcaaccaag tgtcgcaacg      720
126 gtcgagattc tttttcttc ttttggtcga gaaaaaaaaa cggcttcgct tcgcacgcgc      780
128 gcgggggcatc acccgcatat taagcgggat gacgctcatc aaccggccaa gtgttcttca      840
130 tcataggtga aggttaaaac ggaatggata ggaggagcta accacgtttt tattttaatt      900
132 cgacttgggc agcctcgcc atagtgtctg atggttatat cgtcatagaa aggcagcgcc      960
134 tggcggggtc gtcatggccg tgatcatctg ctttgttaga cattgtccat cagtcacctc     1020
136 aatgacagtt tcccgacgcc atcactaaga cacaaacgta tccagcacgc catgtccatc     1080
138 actgaagaag gtagggcttc gtcgagccag tgcaaccaga gttacagatg aacatcaggc     1140
140 cttgatcaga cccgacttat gaatatggcc gttattgtac acttcttggt gctcctcgag     1200
142 ctgctctttc gtgtttttca ctttctttcc ggatcaaacg agactgctcg tgtatctatc     1260

```

RAW SEQUENCE LISTING

DATE: 04/01/2005

PATENT APPLICATION: US/10/528,872

TIME: 10:57:13

Input Set : A:\0185010SeqList.txt

Output Set: N:\CRF4\04012005\J528872.raw

144 tgtgcttgcc atatgagcat cccatgcctc tgctcaaattg atgctggagc tacgatccat 1320
 146 cagagacgac acaaaacggg gttgtatgaa ctctacattt cctaattgta ttggaatttt 1380
 148 ctgtaatgcg ttcttcatct ttctctaattg cttttttgta gtccgtcttt tcaaccttgc 1440
 150 cagcggtttcg cgtgtcttct ttctcctttg acggtcacatc ctttcttctc tcttctcggt 1500
 152 ctttcttccg tccttctctc tctctcttctg tctgaacatc agcatcatc atg ggc ata 1558
 153 Met Gly Ile
 154 1
 156 tca gat tac ctc gtt ctg g gtcagttctg tcttttggtt gattcttate 1607
 157 Ser Asp Tyr Leu Val Leu
 158 5
 160 ttcttgccgg cggtcgcctg tcttggttat atcatcagca atgagaaaca tgatgttccc 1667
 162 cccgcgtcaa tcaactgacct ttgtgtctc tacttctttc ctgtcgaatt gatcctgatt 1727
 164 gatacgtgtg ccggtgctt aacag ct ttc acg cat cct gtaggtggtt 1776
 165 *insert* Ala Phe Thr His Pro
 W--> 168 tategtatgc ttcatgttga tgtttagtca cggcgactga cctggccgggt tgattttctg 1836
 170 tatgatcgct tgtgctaccg tctttcttgg aaatccttcc catcag gcc gat ctg 1891
 171 Ala Asp Leu
 172 15
 174 cga gct tta atg cag tac gcg atc tgg cat gag cct cga agg aat atc 1939
 175 Arg Ala Leu Met Gln Tyr Ala Ile Trp His Glu Pro Arg Arg Asn Ile
 176 20 25 30
 178 act gca cag gag gaa cat gca aca tcc ggt tgg gac cga gaa act atg 1987
 179 Thr Ala Gln Glu Glu His Ala Thr Ser Gly Trp Asp Arg Glu Thr Met
 180 35 40 45
 182 aag gaa tgt tgg aag tat ttg gat ctg act tca aga agt ttc gca gct 2035
 183 Lys Glu Cys Trp Lys Tyr Leu Asp Leu Thr Ser Arg Ser Phe Ala Ala
 184 50 55 60 65
 186 gtc atc aaa gag ttg gac gga gat ctt acc cga gtc gtacgtggtt 2081
 187 Val Ile Lys Glu Leu Asp Gly Asp Leu Thr Arg Val
 188 70 75
 190 tcatcttctc tctcctttga gatctggctg cctccgcatt ttcttggtgc agaagggtca 2141
 192 gaagctgaca acaccatctc tactgttccg gacacggcta g atc tgt tta ttc tat 2197
 193 Ile Cys Leu Phe Tyr
 194 80
 196 ctc gct ctt cga gga ctg gat acc att gag gat gac atg agt cta tct 2245
 197 Leu Ala Leu Arg Gly Leu Asp Thr Ile Glu Asp Asp Met Ser Leu Ser
 198 85 90 95
 200 aat gat gtg aag ctt ccc ctg ctt cgg aca ttc tgg gaa aag ctt gac 2293
 201 Asn Asp Val Lys Leu Pro Leu Leu Arg Thr Phe Trp Glu Lys Leu Asp
 202 100 105 110
 204 tcc cct ggg tgg acc ttt act gga tcc ggt cca aat gag aag gat aga 2341
 205 Ser Pro Gly Trp Thr Phe Thr Gly Ser Gly Pro Asn Glu Lys Asp Arg
 206 115 120 125 130
 208 gag ctt ctt gtt cac ttc gat gtg gcc atc gcc gag ttt gcc aac ttg 2389
 209 Glu Leu Leu Val His Phe Asp Val Ala Ile Ala Glu Phe Ala Asn Leu
 210 135 140 145
 212 gac gtc aa gtgagtttcc ctttatgggt ggatcatccg ctgcacagac 2437
 213 Asp Val Asn
 216 tcgaaacgct catcactttg gtctgcttga tgaacag c tct cgg aac gtc att 2490

RAW SEQUENCE LISTING

DATE: 04/01/2005

PATENT APPLICATION: US/10/528,872

TIME: 10:57:13

Input Set : A:\0185010SeqList.txt

Output Set: N:\CRF4\04012005\J528872.raw

```

217                               Ser Arg Asn Val Ile
218                               150
220 cga gac atc act cgc aag atg ggt aac ggt atg gcc gac ttt gct tct      2538
221 Arg Asp Ile Thr Arg Lys Met Gly Asn Gly Met Ala Asp Phe Ala Ser
222 155                               160                               165                               170
224 ctc tct acg ccc tcc aag cct gtg gcc gag gtc cag tcg acc gaa gat      2586
225 Leu Ser Thr Pro Ser Lys Pro Val Ala Glu Val Gln Ser Thr Glu Asp
226                               175                               180                               185
228 ttc aac cta tac tgt cat tac gtc gct gga ctc gtc ggc gag gga ctc      2634
229 Phe Asn Leu Tyr Cys His Tyr Val Ala Gly Leu Val Gly Glu Gly Leu
230                               190                               195                               200
232 tcc cga ctc ttt gtc gcg acc gag aag gaa cga cca ttc ttg gcc aac      2682
233 Ser Arg Leu Phe Val Ala Thr Glu Lys Glu Arg Pro Phe Leu Ala Asn
234                               205                               210                               215
236 cag atg gta ctt tca aac tcg ttc gga ctc ctt ctc caa aag aca aac      2730
237 Gln Met Val Leu Ser Asn Ser Phe Gly Leu Leu Leu Gln Lys Thr Asn
238                               220                               225                               230
240 atc ctt cga gat att cgg gag gac gcc gac gaa ggt cgt ggc ttc tgg      2778
241 Ile Leu Arg Asp Ile Arg Glu Asp Ala Asp Glu Gly Arg Gly Phe Trp
242 235                               240                               245                               250
244 cca aga gag atc tgg gcc aac ccg atc tat act gcg cat gca ccg ggc      2826
245 Pro Arg Glu Ile Trp Ala Asn Pro Ile Tyr Thr Ala His Ala Pro Gly
246                               255                               260                               265
248 aca agg ttt aac tcg ttg act gac ctg gtc aag aaa gaa aac atc gac      2874
249 Thr Arg Phe Asn Ser Leu Thr Asp Leu Val Lys Lys Glu Asn Ile Asp
250                               270                               275                               280
252 aaa gga tca atg tgg gtg ttg agt gcg atg aca ctc gac gcg atc acc      2922
253 Lys Gly Ser Met Trp Val Leu Ser Ala Met Thr Leu Asp Ala Ile Thr
254                               285                               290                               295
256 cat act acc gac gca ctg gac tac ctc tca ctt cta aag aac cag agt      2970
257 His Thr Thr Asp Ala Leu Asp Tyr Leu Ser Leu Leu Lys Asn Gln Ser
258                               300                               305                               310
260 gtt ttc aac ttt tgt gct atc ccg gct gtc atg tcg att gca acg ttg      3018
261 Val Phe Asn Phe Cys Ala Ile Pro Ala Val Met Ser Ile Ala Thr Leu
262 315                               320                               325                               330
264 gag cta tgc ttc atg aac cca gcg gtg ttc caa cga aac ata aaa atc      3066
265 Glu Leu Cys Phe Met Asn Pro Ala Val Phe Gln Arg Asn Ile Lys Ile
266                               335                               340                               345
268 aga aag gga gaa gcc gtc gag gtgcgttcgc gcgttctgtt tctaccttc      3117
269 Arg Lys Gly Glu Ala Val Glu
270                               350
272 ataacattgg aggttcttga ctcttaagcg tcttccaatc tgatgcctcc aattatcatc      3177
274 atttttgtct tttttgcttt cctcttgttt cttttcggcg tgattcaatc cag ctc      3233
275                               Leu
278 att atg aag tgc aac aac cct cgg gag gtg gca tac atg ttt aga gat      3281
279 Ile Met Lys Cys Asn Asn Pro Arg Glu Val Ala Tyr Met Phe Arg Asp
280 355                               360                               365                               370
282 tat gct cga aag att cat gcc aag gct att cct aca gat cct aac ttc      3329
283 Tyr Ala Arg Lys Ile His Ala Lys Ala Ile Pro Thr Asp Pro Asn Phe

```

RAW SEQUENCE LISTING

DATE: 04/01/2005

PATENT APPLICATION: US/10/528,872

TIME: 10:57:13

Input Set : A:\0185010SeqList.txt

Output Set: N:\CRF4\04012005\J528872.raw

```

284          375          380          385
286 atc aag ttg agc gtt gcg tgt ggt cga gtgagttgat cgatecatcc 3376
287 Ile Lys Leu Ser Val Ala Cys Gly Arg
288          390          395
290 atctttttgtt ttgatcatcg cgagacttga ctgacgcatt actcaaaaca tcatcgcttc 3436
292 tccttcttgc tctctag atc gaa caa tgg gct gag cac t gtatgttctt 3485
293          Ile Glu Gln Trp Ala Glu His
294          400
296 ccgccccctcc ttcaagtttc ctctcgcttc atctttgttg agaagagggga tctgatgtat 3545
298 ctttctttgt tcggatcag ac tac ccc tca ttt atg atg att cgg cct tcg 3596
299          Tyr Tyr Pro Ser Phe Met Met Ile Arg Pro Ser
300          405          410
302 aat gac cct caa aac ccc gca ccc tca acg gcg ctt gac cct ttc tca 3644
303 Asn Asp Pro Gln Asn Pro Ala Pro Ser Thr Ala Leu Asp Pro Phe Ser
304          415          420          425
306 gga gac gct cgt tta agg ata gcc tct aag aag gct gag atc acc gcc 3692
307 Gly Asp Ala Arg Leu Arg Ile Ala Ser Lys Lys Ala Glu Ile Thr Ala
308 430          435          440          445
310 gct gct ctt gtc agg aag aaa gcc cgg gat cac gct aag tgg aga gag 3740
311 Ala Ala Leu Val Arg Lys Lys Ala Arg Asp His Ala Lys Trp Arg Glu
312          450          455          460
314 tcc aag gga ttg cct ccg agc gat ccg aac aag ccg gac aac tcg gag 3788
315 Ser Lys Gly Leu Pro Pro Ser Asp Pro Asn Lys Pro Asp Asn Ser Glu
316          465          470          475
318 gat gtt aat tgg gta ttg atc ggc ggt atg atc gtt gga ttg ttg ctc 3836
319 Asp Val Asn Trp Val Leu Ile Gly Gly Met Ile Val Gly Leu Leu Leu
320          480          485          490
322 gtg atg ggc gtg ctc ggt ttg gct atc gct tgg gtt gtt ctt cag 3881
323 Val Met Gly Val Leu Gly Leu Ala Ile Ala Trp Val Val Leu Gln
324          495          500          505
326 gtgcgttctt ccaaagagcc tttctctcat gaacacgcac ataggttgat ctaattctat 3941
328 cttactctgt catacag ttt gag caa taa tctcaagatt ctagtccatc 3990
329          Phe Glu Gln
330          510
332 ctttcgctca acgatctgct tcttctcctt ctcttctctc gtcttctctg gtttcttttc 4050
334 ttactttctg ggatcttctt tcttgaatcc tccgatccaa tgtaatctgc ataccctcgc 4110
336 tttagtagaa accgatcctt cattcgatct tggcgaaaat ctaagcaaag agaatcactt 4170
338 ttgtctaata aaatttcctt taaagagtcg gcttttctt gtggcgaagc ttcacccgt 4230
340 ctctctctgg accatctctt ctcaatattc tttgtgctac tatatgatca agttctttga 4290
342 aatcaaagaa gaacatgtat ttgattttga ggtccaaga atacaaccgg cccaagtcgt 4350
344 tcttcgcagt tttcatcaga cagcacatat ctctctcct ctctatagaa gccgtatggg 4410
346 gccaatcgac tctcatgggt agaccgtgcc cttttgacac ggggagaaaag agaacgaaaag 4470
348 gacacttgac cgattcgta ataaagccgt cccacacctt tctttaatgg caattcaaga 4530
350 agagaaaaac aaccctgcg cgcactcgag tagtcgatca gacctccga acgacagata 4590
352 tcatttgctg aaatcgaccg gattttaaag ctgctgccag gtcggtgaat cccctaggt 4650
354 gatctccttg tacaaagatg ttgggcacgg acttttcgac ccgatgaga acgtcgtgaa 4710
356 gagtttgaaa aagattatca acataatgtg tcttttttct ttttttctt cgtaactctc 4770
358 tagagaacga ggagacgtac ggtctgattt gttatcg 4807
361 <210> SEQ ID NO: 2

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/528,872

DATE: 04/01/2005
TIME: 10:57:14

Input Set : A:\0185010SeqList.txt
Output Set: N:\CRF4\04012005\J528872.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:4; N Pos. 3,6,12,15
Seq#:5; N Pos. 3,9,15,18,21
Seq#:6; N Pos. 3,6,9,12,15

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:4,5,6,7,8

VERIFICATION SUMMARY

DATE: 04/01/2005

PATENT APPLICATION: US/10/528,872

TIME: 10:57:14

Input Set : A:\0185010SeqList.txt

Output Set: N:\CRF4\04012005\J528872.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application Number
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:168 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:671 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
L:709 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
L:747 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0